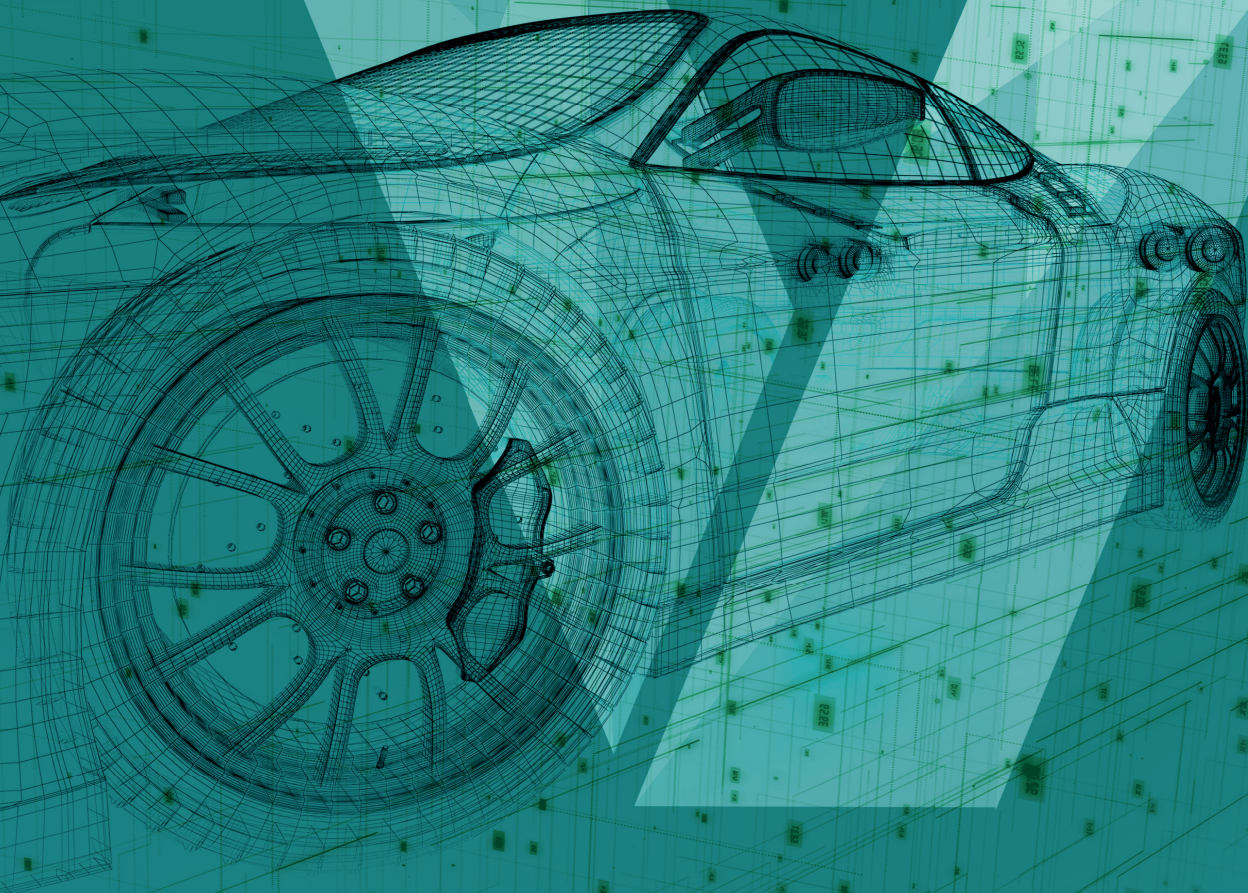




prostep ivip

Recommendation

# MBSE 3D Foundation



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**MBSE 3D Foundation**

3D Visualization in MBSE

## Abstract

Products and Systems are getting more complex over the last years due to a trend to interconnected products, which are often realized as Systems of Systems (SoS), and further influences like the rising globalization and more stringent regulations. New development approaches emerged to handle this complexity and to allow the realization of such complex systems. One of these approaches is Systems Engineering (SE), where a system is developed from the beginning in a holistic approach to consider all influences and interfaces. The Model-Based Systems Engineering (MBSE) uses models to describe the system in its requirements, architecture, behavior and many more aspects. This allows a single-source-of-truth-approach, dynamic usage of the constantly updated information stored in the system model as well as a better understanding, communication and collaboration inside of the project.

Jupiter Tessellation (JT) is the international standard for 3D visualization. It is an open standard format and thus independent from the used Computer Aided Design (CAD) system in use. Together with STEP AP242 XML it is used to share information about components in respect to geometry (JT file) as well as technological aspects (AP242 XML). It allows an easier communication between project members over domains.

As MBSE and JT both support the collaboration and communication, it is obvious to look at both to find synergies and general benefits. The current recommendation shall deliver the following:

- An overview of the capabilities and elements of JT and MBSE
- Current use cases of JT in MBSE
- Possible use cases for further combination of JT and MBSE
- Recommendations for the further research and development of JT in MBSE

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